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ARE TELEGRAPH RATES TOO HIGH?

BY NORVIN GREEN, PRESIDENT OF THE WESTERN UNION TELEGRAPH COMPANY.

A GENERAL discussion of telegraph rates, both in the newspapers and in business circles, seems to have been provoked by a recent official correspondence in respect to the rates to be paid on government messages. Nearly every newspaper throughout the country has had something to say on the subject. Many, without rhyme or reason, have denounced existing rates as exorbitant, while many others, better informed, evidently realize that it does cost something to construct and equip telegraph lines and to maintain and operate them.

Rates for telegraph service are necessarily predicated on the cost of the plant and on the current expenses of maintaining and operating the lines. No telegraph system would be maintained and operated as a private enterprise except at rates that would yield revenues sufficiently above the cost of maintenance and operation to pay a reasonable remuneration on the capital employed.

CAPITAL INVESTED.

And here we encounter the frequently reiterated outcry of dividends on watered stock—a clamor that could be more justly and more reasonably applied to any of the large railroad companies, whose lines extend to the great metropolis, than to the principal telegraph company of this country.

Within the last twenty-four years, and since that company has been domiciled at the city of New York, more than twenty-five million dollars of its cash earnings, and the proceeds of six million three hundred and fifty thousand dollars of bonds, making nearly thirty-one and a half millions in cash, have been expended in the construction and extension of its lines and in the purchase

of additional telegraph properties ; and during the same period twenty-eight million four hundred thousand dollars of its capital stock have been paid for the purchase of the various telegraph companies it has absorbed. Sixty-one and a half millions have been expended in the growth and extension of its system since 1866, in addition to the forty-one millions of capitalization at that date. Its leased properties, including its trans-Atlantic and Gulf cables, represent about twenty-five millions more. With the other and smaller systems of telegraph added, it is safe to say that one hundred and forty millions of dollars have been invested in telegraph properties in this country.

Some of the lines paid for in capital stock were purchased at prices somewhat above the cost of their construction ; while against that, over thirty-one millions of cash expended in the construction of lines under railroad contracts, with the assistance of free transportation and labor, would have cost 50 per cent. more but for these advantages. The surplus of these investments, unrepresented by any form of capitalization, is now about ten and one-half millions,—more than sufficient to counterbalance the alleged inflations in the early years of the history of telegraph companies. The capitalization as it now stands is not above the cost value of the company's properties, while a distinguished advocate of a government telegraph has repeatedly asserted that he considered the contracts of the company of greater value than its properties.

Very few of the original telegraph companies earned any dividends for the stockholders. Most of them did not earn expenses of maintenance and operation for a number of years; and the original investment in most of them proved a partial, if not a total, loss. Although the average rates for the service were then four times as large as they are now, it was thus early demonstrated that, unless the companies could command business enough to employ the operators, they could not earn expenses. The cost to the companies of transmitting and delivering messages, especially for long distances, was then more than three times as great as it is at this date; partly for want of efficient machinery now in use, partly because there was not sufficient business to keep the operators constantly employed, and more largely for the reason that messages sent long distances had to pass over the lines of three or four, and sometimes of six or seven, different companies, by

each of which they were registered and retransmitted, causing not only a very expensive, but a very tardy, service as compared with that which is now rendered.

COST OF MAINTENANCE AND OPERATION.

The gross revenues of the principal telegraph company for the last fiscal year reported (see annual report, October 10, 1888) were \$19,711,164.12. The total expenses were \$14,640,592.18, being a fraction over 74 per cent. of the gross revenues. But a part of the revenues and a portion of the expenses did not pertain to the transmission and delivery of messages on the land lines, nor to the tolls derived therefrom. Eliminate from the revenues that which was derived from dividends on stocks in other companies, from the rent of private wires, from tolls over Atlantic and Cuba cables, and from premiums on money-order transfers, and the remainder, strictly the earnings for transmission of messages over the land lines, yielded an average of $31\frac{2}{5}$ cents a message on 51,463,955 messages transmitted, counting press reports at thirty words to the message. In like manner, deducting from the expenses the cost of maintaining and operating the Atlantic and Cuba cables, and the rentals paid for those cables, the estimated cost of maintaining private wires leased, including the "ticker" service, and the remaining expenses, strictly pertaining to the cost of maintenance and the operation of lines employed in the transmission of messages, show an average cost to the company of $23\frac{2}{5}$ cents per message on the number of messages transmitted, as before stated; the actual cost being a fraction over 75 per cent. of the tolls charged for the service.

There is no means of ascertaining the average cost of handling messages prior to the consolidation of all, or nearly all, the telegraph companies in 1866 and 1867. But for the year ending June 30, 1868, the average cost to the company of handling 6,404,595 messages was $63\frac{4}{5}$ cents per message, and the average tolls for transmission were $\$1.04\frac{7}{10}$ per message. With the rapid increase of business, both the cost to the company of handling messages and the tolls charged to the public have been steadily reduced year by year, until in the year 1887-'88 the average tolls per message were $31\frac{2}{5}$ cents, being less than one-half of what it cost the company to handle a message in 1868.

Among the items that enter into the cost of handling 51,463,955 messages are salaries paid to operators, clerks, managers, and officials, \$6,271,339.71—being a fraction over 13 cents per message; the cost of maintaining the lines, embraced in the items of superintendents, reconstruction, and repairs, \$2,235,614.08—being about $4\frac{3}{8}$ cents per message; messenger service, a little over \$1,000,000—being about 2 cents per message. Thus we have in three general items—maintenance, operation, and delivery—a cost of $19\frac{3}{8}$ cents per message handled. In addition to these are the rentals of offices, light and fuel, office repairs and furniture, instruments, battery material, taxes, legal expenses, and miscellaneous items, making up the remainder of the aggregate cost of $23\frac{2}{5}$ cents per message.

It will be seen that more than half the entire cost of telegraph service, over thirteen cents per message, is in salaries paid managers, operators, and clerks; and this notwithstanding more than three-fourths of all the offices, embracing nearly all the small offices, are operated at no direct cost in money payment for salaries, under provisions of railroad contracts.

The cost of operating service is much below the average on trunk lines where but two operators are employed—one to send and the other to receive messages—and where the business is large enough to keep the operators constantly employed, as between New York and Boston, New York and Philadelphia, New York and Washington or Baltimore, and between New York and Buffalo. And yet a large number of messages are sent between the branch offices in different cities, doubling and tripling the work, as from a branch office in New York to a branch office in Boston, involving their transmission first from the branch office to the main office in New York, thence to the main office in Boston, thence to the branch office, employing six operators to handle the message, instead of two operators if it were sent between two offices only. Many of the branch offices, of which there are over one hundred and fifty in New York alone, do not have business enough to employ the operator one-fourth of his time, and at most of the medium-sized offices more operators have to be kept than the business will employ all day, because of the press of business in the three or four active business hours of the day.

There was a halt in the steady reduction of the cost of handling messages, and in the rates for their transmission, from 1878

to 1884. This was because of the great effort to improve the service and meet the growing exactions of the commercial public. These increasing demands of commercial customers for prompt transmission have thrown the great bulk of the service into about four hours of the business day, requiring a constant increase of wire facilities and of the number of operators to give a satisfactory service ; and demonstrate that a good telegraph service is necessarily much more expensive than a poor service.

An erroneous impression is prevalent that distance is not a very material factor in the cost of telegraph service. The ordinary telegraph circuit that can be relied on for constant working is about five hundred miles. Messages are sent one thousand, fifteen hundred, two thousand, and even twenty-five hundred miles with one direct writing, but over a compound circuit through repeaters about every five hundred miles, at each of which new battery force is supplied ; and, though they are called automatic repeaters, it requires the service of a first-class operator at each repeater to keep it in adjustment ; so that on a direct circuit of five hundred miles but two operators are employed, while a circuit of a thousand miles through repeaters employs three operators ; one of fifteen hundred miles requires four ; one of two thousand miles five; and one of twenty-five hundred miles (as is nearly constantly worked from Chicago to San Francisco) employs six operators. The principal items of cost being maintenance and operation, it may be plainly seen that to transmit a message fifteen hundred miles involves twice the cost of transmitting one five hundred miles for operators and three times the cost for maintenance. A message transmitted twenty-five hundred miles costs three times as much for operating service and five times as much for maintenance as one over a single circuit of five hundred miles or less. A large amount of business is done between the Atlantic seaboard cities and the Pacific coast, the distances ranging from thirty-five hundred miles to forty-five hundred miles. The cost of maintenance is estimated as proportionate to the mileage of wire ; but in fact the cost of maintenance is materially greater per mile of wire on the lines crossing the mountain ranges and where there are few wires on the poles.

Having demonstrated the cost of telegraph service, and that it is more than 75 per cent. of the rates charged to the public, the profit out of which interest on bonded debt has to be paid does

not appear to be exorbitant ; nor does it appear that a further reduction of rates could be reasonably demanded until the increase of business shall have brought about a reduction in the cost of the service. There are few other large corporations that could pay interest on their bonded debt and other fixed charges out of such meagre profits, and have anything left for their stockholders.

COMPARISON WITH OTHER COUNTRIES.

In every country of Europe the government owns and operates the telegraph. A few of the longer submarine cables are owned and controlled by private corporations ; but private enterprise has long been prohibited from owning or operating any land system of telegraph. There is, therefore, no recognized responsibility to the customer for errors or delays, and little or no satisfaction afforded in answers to complaints. A sort of stereotyped form of acknowledgment is, substantially, that the matter will be inquired into, and if there be found cause of complaint the employees at fault will be disciplined. That is supposed to end the correspondence, and the complainant never gets any redress or any further information in regard to the erroneous transmission or miscarriage of his message.

Most of the governments find it necessary to control the telegraph for the very reason that its control by the government in this country has been opposed—namely, to protect the government from the people. In this country it has not been found desirable to strengthen the government against the untrammelled lawful will of the people. It is probable that very cheap rates for telegraph service are given to the public to reconcile the people to this enormous engine of power and espionage in the hands of the government. The rates within the comparatively narrow limits of any one of these countries for short distances, rarely exceeding five hundred miles, are generally somewhat lower than they are in the United States. But between any two or more of these government systems the rates are much higher than in this country, while the service is incomparably worse. Every one who has travelled in Europe will testify to that. With rare exceptions their telegraph service is provokingly unsatisfactory. Even between two such prominent commercial centres as London and Paris the service is so unreliable in point of time that some large commercial houses, when they want their messages to go

promptly, send from London to Paris by way of New York over the trans-Atlantic cables.

In an article published in THE NORTH AMERICAN REVIEW in November, 1883, the views of an experienced news-gatherer, in regard to the comparative merits of the telegraph service in Europe and America, were given in detail and at some length, showing a state of facts which, according to the experience of those who succeeded him in the extensive use of European telegraphs, still exists. The following extract gives the summing-up of his conclusions tersely and pointedly :

"It has been forced upon my conviction by twelve years of intimate acquaintance with the business in America and six years of continuous experience in the same business in Europe that the average time of transmission on the Western Union lines is shorter than on any system in Europe or in any country of Europe; and that the number of errors made by American operators is much smaller than by European operators; and in these respects and all others connected with the principal part of the telegraph service the private companies have made steady and continuous improvement, while the tendency in Europe is to stagnate or retrograde."

This is simply what one would expect as the contrast between government management and private enterprise in a business requiring the most energetic and watchful diligence in all its departments, from the clerk who receives the message at the window to the messenger boy who delivers it at its destination. The management of these systems, like most government management, is cumbersome. A superabundance of officials, clerks, and employees, with the most punctilious observance of rank and gradation; not a few holding their positions by political or family influence, being notoriously incompetent, so that whatever falls to their lot is, of course, badly done. Such encumbrances appear to be a necessary part of the machinery of all departments of government, whether European or American.

Whether from these reasons or the low rates of tolls, or both combined, it is a well-known fact that all government telegraph systems are operated at a loss. In some instances, the accounts are so blended with those of other departments of the government that the precise measure of loss cannot be readily demonstrated; but it is not claimed by any government that its telegraph system pays expenses. In Great Britain, however, the accounts are kept more distinct, and the annual statements, showing the gross receipts, expenditures, interest on debt, and deficit of the telegraph department, are incorporated in the annual report of the

Postmaster-General. With these statements widely copied in the newspapers, the writer has been astonished to find in the columns of so well-informed a journal as the Boston *Globe*, on September 18, 1889, in an article headed "The Telegraphs of Two Countries," the following statement:

"The British government makes a profit on these low rates, too. The telegraph service not only pays all its own expenses, but yields annually to the treasury a surplus of over £4,000,000, or \$20,000,000."

The last report of the British Postmaster-General that has reached this country is for the fiscal year 1887-'88. A tabular statement, showing the earnings, expenses, and interest on bonds of the telegraph department is given on page 9 of that report, which shows that the telegraph department never did earn any considerable part of the 3 per cent. interest on the bonds given for the purchase and extension of the telegraph, and that since the reduction of the rate in 1884 it has earned no part of that interest; and although the other departments of the government pay full rates for their telegraph service, the earnings have not been equal to current expenses. Leaving out the interest on bonds, the expenses for the last five years stated were more than £160,000 (\$800,000) in excess of the revenues.

Another marked contrast between the American and European systems is the basis on which tolls are charged. On all the European systems the rate charged is per word with a minimum number of words, generally twenty, for which minimum the customer has to pay, though the actual number may be less. In England, however, in about 1885, the rate was reduced from a shilling for twenty words or less to sixpence for twelve words or less, and a half-penny for each additional word, all the words, including address and signature, being counted. In this country only the body-words of the message are counted, the minimum of body-words being ten or less, the date, address, and signature being free. The reason of that distinction is that in this country full addresses are courted to facilitate delivery.

The rate in Great Britain is lower than that of any of the systems in Europe, except that of Belgium, and a message of twenty words by the English count is generally one-fifth lower for like distances in this country than our ten-body-word message, which, including address and signature, generally contains twenty words or more. But not uniformly so. There are frequent instances

of messages with long address, such as "C. P. Huntington, Vice-President and General Manager, 263 Park Avenue, New York City," and long signatures, such as "Samuel F. G. Johnson, Assistant General Passenger Agent," which, if charged for at the British rate of one cent a word for all the words, would make the message amount to at least thirty-two cents at the British rate, instead of twenty-five cents for the ten body-words, with address and signature free, as charged in this country. In this instance there are twenty-two words in the address and signature, and such instances are not infrequent.

But while the European rates are, in most instances, lower for short distances, they are immensely higher for long distances. The rate of forty cents carries the ordinary message from New York, Philadelphia, Washington, or Baltimore to Chicago or St. Louis—a distance of one thousand miles and over; while nowhere in Europe (except between Paris and Algiers over the French Government cable) can the same message be sent that distance for less than twice the amount charged in this country. Messages from Chicago or St. Louis to San Francisco and other points on the Pacific coast, distant from twenty-five hundred to three thousand miles, are transmitted for seventy-five cents, while nowhere in Europe can the same message be sent a like distance for less than four times the tolls charged in this country. Even for the shorter distances, where the message is between two or more systems, the European rates are very much higher than those of this country. For the maximum rate of one dollar, a message may be transmitted between the most distant points at which there are telegraph offices in the United States, the extreme distance being something over four thousand miles.

A message between any two points in different countries of Europe, involving a charge of the rates of both countries, however short the distance, makes a much higher rate of tolls than that charged in this country for a like distance. A twenty-word message by the European count is generally about equal in length to our minimum of ten body-words, with ten additional words for date, address, and signature. Such a message from London to Brussels, Paris, Amsterdam, Lyons, Strassburg, or Frankfort (the distances being from two hundred to four hundred miles) would be eighty cents, while from New York to Boston, Washington, Buffalo, Pittsburg, Portland, Me., Concord, N. H., or

Burlington, Vt. (the same range of distances), the rate is twenty-five cents. From London to Venice, Barcelona, Copenhagen, Vienna, Rome, or Madrid (the distances being from six hundred to nine hundred miles) the rate for such message is one dollar and eighty cents, while from New York to Cincinnati, Louisville, Indianapolis, Chicago, and St. Louis (the distances being from six hundred to one thousand miles) the rate for such message is forty cents. From London to St. Petersburg (twelve hundred miles) the rate is thirteen cents per word—two dollars and sixty cents ; while from New York to St. Paul, Omaha, and leading points in Kansas and Nebraska (distances ranging from twelve hundred to fourteen hundred miles) the rate is fifty cents.

And why should not the rates in the old countries of Europe be lower than in this country ? The systems are more compact, the population is more dense, and the lines are located mostly in an open country, requiring less expense for repairs and maintenance. The chief item of the cost of telegraph service is the pay of operators, which in those countries is less than one-half of that paid for operators in this country, while the business is concentrated in a smaller area and on shorter lines. Take, for instance, the British system as compared with that of this country—a system embracing 30,255 miles of line, 178,962 miles of wire, and 6,810 offices, and covering an area of about 129,000 square miles. That system transmitted, during the year 1887-'88, 53,403,429 messages ; while over the principal system in this country, covering an area of 3,000,000 square miles, nearly twenty-five times as great, embracing 171,375 miles of line, 616,248 miles of wire, and 17,241 offices, mostly in a sparsely-settled and wooded country, there were transmitted 51,463,955 messages. To do a smaller amount of business by nearly two millions of messages there had to be maintained in this country more than five and one-half times as many miles of line, three and one-half times as many miles of wire, and nearly three times as many offices. With less than one-fifth of the mileage of lines, less than one-third the amount of wire, and with a little over one-third the number of offices, covering one-twenty-fifth part of the area, with cheaper wire, cheaper instruments, and cheaper battery and stationery supplies, and lower-priced labor, the repairs, maintenance, equipment, and supplies on the British system could scarcely cost one-fourth as much as on the larger system in this country. The

salaries of operators, messengers, and office employees being less than one-half the rates paid in this country for like service, it should not cost more than half as much to transmit and deliver messages in Great Britain as in the United States, especially taking account of another great item of saving—the larger amount of business concentrated in a smaller territory on fewer and shorter wires, giving constant employment to the operators. These items of maintenance, supplies, operation, and delivery of messages comprise more than four-fifths of the cost of the service.

The following comparative statement will show the relative cost of operators in London and New York :

Average Salaries paid to Telegraph Operators by the English Post-Office Department, at London (Central Station), in the year 1887-'88.

1,224 Males,	at monthly pay aggregating.....	\$34,596.52
719 Females, " " "	"	17,104.32
1,943 Total, " " " "	\$51,700.84

The average being

Males.....	\$28.26 per month.
Females.....	23.76 " "
Males and females.....	26.60 " "

Average Salaries paid to Telegraph Operators by the Western Union Telegraph Company, at the Main Office, in New York, in the month of December, 1887.

471 Males,	at monthly pay aggregating.....	\$33,705
193 Females, " " "	"	7,095
664 Total, " " " "	\$40,800

The average being

Males.....	\$71.56 per month.
Females.....	36.75 " "
Males and females.....	61.45 " "

It is difficult to appreciate the magnitude of the telegraph systems in the United States. Combined, they are more than one-third the entire telegraph systems in the world in mileage of lines and wires and number of offices maintained, and more than that of any ten other countries contiguous to each other. About six hundred and seventy-five thousand miles of telegraph wire are being operated in the United States,—sufficient to girdle the earth twenty-seven times. To expect this vast system, covering an area of three millions of square miles, in great part over rough and sparsely-settled territory, to be maintained and operated (at a cost for operators and linemen of more than double the rate of salaries paid in any country of Europe) at the same rates of tolls, without regard to territory, that are paid in the smaller countries of Europe, is unreasonable and unjust.

NORVIN GREEN.